REMARKS

The application has been amended and is believed to be in condition for allowance.

Claims 1-4 and 8-10 stand rejected as obvious over JAKOBSON et al. 4,508,058 in view of PAINE 4,613,939.

Claims 5-7 and 16-18 stand rejected in further view of WO 96/36212 to INNINGS et al.

The claims have been amended to clarify the features of the invention.

Figure 1 illustrates a robot (6) with arm (8) that moves animal related devices (12a-milking equipment) toward an animal (cow), for performing an operation associated with the animal and the installed animal related device (milking).

The invention provides for improved maintenance of such a system by associating with the animal, the animal related device, and the robot: 1) a registering means (20a) and 2) a control means.

The registering means accumulates plural running values and the control means generates a signal when a predetermined threshold value of a corresponding running value is reached.

Predetermined threshold values are thus set for each of the animal related device, the driving means of the robot, and a complete animal related operation. Thus, the registering means registers the running values of each of: 1) the animal related

device, 2) the driving means of the robot, and 3) the complete animal related operation.

For example, the animal related device may be a milking pulsator, the registering means tracks the pulsator running time, and the control means signals when the pulsator reaches its predetermined cumulative running time. Alternatively, the running value could be the number of pulsations generated by the pulsator. See claims 5-7.

Other recited examples are the running time of a teat location device (claim 8), the running time of a teat cleaning device (claim 9), and running time of a gate operator (claim 10).

Accurate monitoring of running values and timely signaling when reaching any threshold value allows for efficient maintenance of equipment, accounting for differences between the individual parts of the equipment as to their comparative running values and their comparative maintenance need point.

Analysis of the Applied Art

JAKOBSON et al. is offered as teaching of calculating the time since a cow was last milked, and for a control means that, when sufficient time has elapsed, activates the milking equipment to again milk the cow using a robot (referring to Column 3, lines 28-36).

But the amount of time NOT milking a cow is not "a cumulative running value" or "a cumulative operating running

value". See the recitation in claim 1, i.e., "each time another of the animal related operation is performed, each registering means is activated and registers further cumulative running values, the further cumulative running values being added to previous, stored cumulative running values corresponding to previously performed animal related operations".

In contrast to JAKOBSON et al., the invention provides for improved maintenance of a system by using a registering means to accumulate a running value--how much operational use something has accumulated--to trigger a control means to generate a signal when a predetermined threshold value of the running value is reached.

Although JAKOBSON et al. does teach improving cow milking, JAKOBSON et al. does not teach how to improve maintenance of such milking equipment as recited in the rejected claims. Nor would modification of JAKOBSON et al. be obvious in view of the secondary references. Thus, the rejections fail.

The Official Action acknowledges that JAKOBSON et al. does not teach a registering means ..., the control means generating a signal when a predetermined threshold value is reached, or the predetermined threshold values being set as recited.

Thus, it is clear that JAKOBSON et al. does not teach the new recitations regarding these same aspects of the invention.

PAINE is offered as teaching "establishing a predetermined threshold value for machinery components,

registering the cumulative running value, and signaling when the threshold is reached" (OA page 3, lines 3-6).

Although it is true that PAINE teaches to have a registering means in order to register a running cumulative value, PAINE does not teach predetermined threshold values for discrete parts of a system and rather only teaches to notify that the whole vehicle should undergo services after a predetermined time. This is a basic concept and is not the recited invention.

There is no teaching in PAINE i) to have several threshold values, one for each component, ii) to maintain separate cumulative running values as to each monitored component, iii) to provide a signal to notify that a specific component has to undergo service, and iv) that each time another operation is performed, each registering means is activated and registers further cumulative running values, the further cumulative running values being added to previous, stored cumulative running values.

In contrast to the prior art, e.g., PAINE, the invention does not provide a single threshold value for all the parameters, i.e. the animal related device, the robot and the animal related operation. Only the invention provides separate threshold values for each monitored item. The amended claims are believed to address this issue and clarify this difference of the invention.

One should also consider the invention in the context recited, i.e., a milking robot and milking an animal.

When it concerns a milking robot which has to undergo service, the service man could easily check the different registering means and check the respective cumulative running value against the associated threshold value. If a specific running value of a registering means is close to the threshold value associated with said registering means for a specific component, the service man could have a closer look to the component in question.

However, if the registering means was recently reset, an indication that the component in question was recently replaced or repair work has recently been performed on this component, the service man could skip checking that component. Again, this milking robot is a sophisticated piece of machinery and service has to be performed by educated people. This is in contrast to PAINE, where a single parameter serves as a metric for "giving the entire device a look over".

The animal related device could for example be a teat cup, a teat location device and a teat cleaning device. The teat cup does not have to be carried by the robot arm simultaneously as the cleaning device. Moreover, the running value of the teat cup may accumulate differently from the running value of the teat cleaning device. Thus, the invention recognizes the environment of performing animal related operations with the robot automation and addresses problems specific thereto.

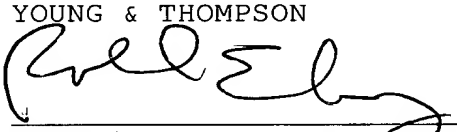
The prior art does not teach or suggest the approach recited by the pending claims.

In view of the above, applicant believes that the present application is in condition for allowance and an early indication of the same is respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON



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